

EXECUTIVE SUMMARY

Date, Time and Location of the Accident: 2 February 2002, 1430L (2130Z), at Ellsworth AFB, SD.

Mishap Aircraft: C-21A, S/N 84-0097, assigned to the 47th Airlift Flight, Wright-Patterson AFB, OH that falls under the supervision of the 457th Airlift Squadron, Andrews AFB, MD, and the 375th Airlift Wing, Scott AFB, IL.

Summary of Events: The mishap aircraft, call sign Pacer 43, was conducting pattern work operations during an off-station training mission at Ellsworth AFB. Shortly before impact, the mishap crew was conducting a simulated single-engine approach to runway 31 at Ellsworth AFB. Subsequent analysis showed that there was a significantly greater amount of fuel in the left wing and left wing tip tank than the right. The gross fuel imbalance resulted from an unmonitored transfer of fuel from the right wing and right wing tip tank to the left that was initiated by the crew approximately nine and one-half minutes before impact. As the aircraft approached the point when it would normally transition to a flare, it leveled off and began a climbing turn to the west, toward the tower. It did not touch down prior to the turn, but veered left immediately during the flare, and then rolled back to wings level momentarily as it climbed. The heavier left wing, and application of power to the right engine for the go-around, caused the aircraft to roll back into a steeper left turn, stayed in a climbing left turn with the bank continuing to increase until it rolled through more than 90 degrees of bank. As the aircraft reached the highest point of the climb (approximately 450 feet), the bank angle was more than 90 degrees, and perhaps slightly inverted as the nose dropped and the aircraft began to descend. The aircraft impacted the ground in a grassy field approximately one-half mile south of the airfield control tower at location N 44 Degrees, 7.762 Minutes, W 103 Degrees, 6.509 Minutes. The aircraft attitude directional indicators showed that the aircraft impacted the ground inverted (upside-down) with the left wing down 60 degrees and nose down attitude of 58 degrees.

Number of Injuries/Death: The pilot, Captain Brian D. Rizzoli and the co-pilot, First Lieutenant William B. Satterly, were killed in the mishap. There were no civilian casualties.

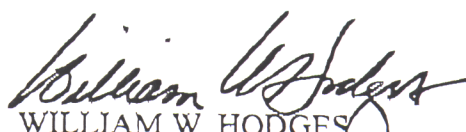
Damage Description: The aircraft was totally destroyed upon impact with the loss valued at \$3,431,000.00. There was no other damage to government or private property.

Statement of Opinion:

Under 10 U.S.C. 2254(d), any opinion of the accident investigators as to the cause of, or the factors contributing to, the accident set forth in the accident investigation report may not be considered as evidence in any civil or criminal proceeding arising from an aircraft accident, nor may such information be considered an admission of liability by the United States or by any person referred to in those conclusions or statements.

I find, by clear and convincing evidence, the primary cause of the mishap was the crew's failure to follow flight manual procedures for fuel transfer. As a result, the mishap aircraft experienced a fuel imbalance significant enough to cause the aircraft to enter an unsafe roll to the left from which the pilot was not able to recover.

Dated this 20th day of March 2002.


WILLIAM W. HODGES
Brigadier General, USAF

President, Accident Investigation Board